

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. The following listing provides the amended claims with the amendments marked with deleted material crossed out and new material underlined to show the changes made.

1. (Currently Amended) A method for guiding a medical instrument to a target site within a patient, comprising:

capturing at least one intraoperative ultrasonic image from the patient;

identifying a spatial feature indication of a patient target site on the intraoperative ultrasonic image,

determining coordinates of the patient target site spatial feature in a reference coordinate system, said reference coordinate system not defined in terms the ultrasonic image,

determining a position of the instrument in the reference coordinate system,

displaying ~~creating~~ a view field from the perspective of a predetermined position, and ~~optionally orientation, relative to~~ the instrument in the reference coordinate system, and

displaying on projecting onto the displayed view field an a set of indicia identifying the position of the spatial feature of the target site with respect corresponding to the predetermined position, and optionally orientation instrument, wherein the set of indicia is not a geometric representation of the target.

2. (Original) The method of claim 1, wherein said medical instrument is a source of video and the view field projected onto the display device is the image seen by the video source.

3. (Currently Amended) The method of claim 1, wherein the displayed view field projected onto the display device is that seen from the tip-end position and orientation of the medical instrument having a defined field of view.

4. (Currently Amended) The method of claim 1, wherein the perspective of the medical instrument comprises a field of view and an orientation of the medical instrument, wherein the displayed view field projected onto the display device is seen from a position along the axis of instrument different from ~~the target seen at~~ a tip-end position of the medical instrument.

5. (New) The method of claim 1 further comprising
using an ultrasonic source to generate the ultrasonic image of the patient, and
determining coordinates of the spatial feature indicated on said image from the coordinates of the spatial feature on the image and the orientation of the ultrasonic source.

6. (New) A method for facilitating a medical procedure involving navigation of a medical instrument towards a target site in a patient, comprising

- (a) defining a reference coordinate system;
- (b) capturing at least one intraoperative two-dimensional ultrasonic image from the patient;
- (c) from the captured two-dimensional ultrasonic image, computing the coordinates of the target site in the reference coordinate system;
- (d) displaying a view from the perspective of the instrument, a surgeon, or another instrument;

(c) displaying in real time a set of indicia that identifies the location of the target site in the displayed view, in order to facilitate the navigation of the medical instrument towards the patient target site.

7. (New) The method of claim 6, wherein the reference coordinate system is defined in terms of the perspective of the medical instrument.

8. (New) The method of claim 7, wherein the perspective of the medical instrument comprises a field of view and an orientation of the medical instrument.

9. (New) The method of claim 6, wherein the set of indicia identifies an area.

10. (New) The method of claim 6, wherein the set of indicia identifies an object.

11. (New) A method for facilitating a medical procedure involving navigation of a medical instrument towards a target site in a patient, comprising

(a) capturing at least one intraoperative ultrasonic image from the patient;

(b) receiving at least one location on the ultrasonic image as the location of the target site;

(c) from the received location, calculating the location of the target site with respect to the orientation of the instrument;

(d) from the perspective of the instrument, displaying a view of the patient;

(e) displaying in real time a set of indicia that identifies the location of the target site in the displayed view, in order to facilitate the navigation of the medical instrument towards the patient target site.

12. (New) The method of claim 11 further comprising:

defining a reference coordinate system;

wherein calculating the location of the target site comprises computing the coordinates of the target site in the reference coordinate system.

13. (New) The method of claim 11 further comprising using the calculated coordinates of the target site to generate the location of the set of indicia in the displayed view.

14. (New) A method for facilitating a medical procedure involving navigation of a first medical instrument towards a target site in a patient, comprising

(a) capturing at least one intraoperative ultrasonic image from the patient;

(b) receiving at least one location on the ultrasonic image as the location of the target site;

(c) from the received location, calculating the location of the target site with respect to a perspective defined with respect to a second medical instrument;

(d) displaying a view of the patient from the perspective defined with respect to the second medical instrument;

(e) displaying in real time a set of indicia that identifies the location of the target site in the displayed view, in order to facilitate the navigations of the first medical instrument towards the patient target site.

15. (New) The method of claim 14 further comprising:

defining a reference coordinate system;

wherein calculating the location of the target site comprises computing the coordinates of the target site in the reference coordinate system.

16. (New) The method of claim 14 further comprising using the calculated coordinates of the target site to generate the location of the set of indicia in the displayed view.

17. (New) The method of claim 14 further comprising displaying in real time a representation of the first medical instrument on the displayed view, in order to allow the person to navigate the first medical instrument towards the patient target site.